

WHAT IS CLAIMED IS:

Sub A1 1. A vehicle displacement sensor comprising:

a wireless transmitter generating a wireless signal indicative of a vehicle displacement; and

5 a wireless receiver receiving said wireless signal from said transmitter.

Sub A1 2. The vehicle displacement sensor of claim 1 wherein said transmitter is mounted on a rotating component of a vehicle.

10 3. The vehicle displacement sensor of claim 2 wherein said transmitter is mounted on a wheel.

4. The vehicle displacement sensor of claim 2 wherein said transmitter includes a power source.

Sub A2 15 5. The vehicle displacement sensor of claim 4 wherein said power source generates power based upon motion.

Sub A1 20 6. The vehicle displacement sensor of claim 2 wherein said transmitter generates an acoustic signal.

Sub A1 7. The vehicle displacement sensor of claim 2 wherein said transmitter generates an RF signal.

8. The vehicle displacement sensor of claim 2 wherein said transmitter generates a fixed
5 number of beacon signals upon each revolution of the vehicle part.

Sub A3 9. The vehicle displacement sensor of claim 9 wherein said fixed number is one.

Sub A1 10. The vehicle displacement sensor of claim 1 wherein said transmitter generates a
10 modulated RF signal indicative of vehicle displacement.

11. A vehicle displacement sensor comprising:

means for generating a wireless signal indicative of rotational displacement of a vehicle part;

a wireless receiver receiving said wireless signal; and

5 means for determining displacement of a vehicle based upon said wireless signal.

12. The vehicle displacement sensor of claim 11 wherein said means for generating is mounted on a wheel.

10 13. The vehicle displacement sensor of claim 12 wherein said means for generating includes a power source generating power based upon rotation.

14. The vehicle displacement sensor of claim 11 wherein said wireless signal is an acoustic signal.

15 15. The vehicle displacement sensor of claim 11 wherein said wireless signal is an RF signal.

20 16. The vehicle displacement sensor of claim 11 wherein said means for generating generates a fixed number of beacon signals upon each revolution of the vehicle part.

Sub A47 17. The vehicle displacement sensor of claim 19 wherein said fixed number is one.

Sub A1 18. The vehicle displacement sensor of claim 11 wherein said means for generating generates a modulated RF signal indicative of vehicle displacement.

5 19. The vehicle displacement sensor of claim 11 further including a mass movable relative to said vehicle part based upon motion, said wireless signal generated based upon motion of said mass.

10 20. The vehicle displacement sensor of claim 19 wherein said mass is mounted to a piezo-electric device.

Sub B 21. The vehicle displacement sensor of claim 11 further including means for calibrating said wireless signal to vehicle displacement.

15 Sub A1 22. The vehicle displacement sensor of claim 11 further including means for dead-reckoning a position of a vehicle based upon said wireless signal.

Sub C2 23. A navigation system comprising:

means for generating a wireless signal indicative of rotational displacement of a vehicle part;

a receiver receiving said wireless signal; and

5 means for propagating a position of the vehicle based upon said wireless signal.

Sub B 24. The navigation system of Claim 23 further including means for calibrating said wireless signal to vehicle displacement.

Sub A 25. The navigation system of Claim 23 further including a database of roads, said position of said vehicle propagated relative to said database of roads.

26. The vehicle displacement sensor of claim 23 further including means for dead-reckoning a position of a vehicle based upon said wireless signal.

15 27. The vehicle displacement sensor of claim 23 wherein said means for generating a wireless signal counts rotations of a vehicle wheel.

28. The vehicle displacement sensor of claim 27 further including means for calibrating

20 rotations of said vehicle wheel to displacement of the vehicle.

29. A method for determining vehicle displacement including the steps of:

generating a wireless signal indicative of rotational displacement of a vehicle part;

receiving said wireless signal; and

5 determining displacement of a vehicle based upon said wireless signal.

30. The method for determining vehicle displacement of Claim 29 further including the step of calibrating the wireless signal to vehicle displacement.

31. The vehicle displacement sensor of claim 30 further including the step of dead-reckoning a position of a vehicle based upon the wireless signal.